

REMARKS

Claims 1 and 4-6, 8, 9, 11, 12 and 20-26 are currently pending in this application. Claims 2, 3, 7, 10 and 13-19 have been canceled. Claims 1, 8, 9, 11, 20 and 24-26 have been amended. No new matter has been added by these amendments. Applicants have carefully reviewed the Office Action and respectfully request reconsideration of the claims in view of the remarks presented below.

Claim Rejections Under 35 U.S.C. §102

Claims 13-17 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,208,896 (Mulhauser).

Claims 13-19 have been canceled.

Claims 1, 4-7, 9-11, 13-17, 20-23 and 25 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,725,560 (Brink).

Independent claim 1 has been amended to recite an output adapted for connection across a load; a charging circuit; a voltage storage device coupled between the charging circuit and the output; a capacitor switchably coupled across the voltage storage device and the output; pulse-width modulation circuitry operative to provide a pulse waveform; and an H-bridge including a first leg and a second leg, each leg including a first switching device operative to receive the pulse waveform, and alternately couple and decouple the voltage storage device across the capacitor and the output in accordance with the pulse waveform to provide a stimulation output having a pulse-width modulated waveform, the capacitor operative to receive current from the voltage storage device when the voltage storage device is coupled across the output and to supply current to the output when the voltage storage device is decoupled across the output.

Independent claim 13 and its dependent claims 14-17 have been canceled.

Independent claim 20 has been amended to recite an output circuit including an output adapted for connection across a load; a charging circuit; a first capacitor coupled

between the charging circuit and the output; a second capacitor switchably coupled across the first capacitor and the output; a pulse-width modulation circuit that generates a pulse-width modulation control signal corresponding to a desired waveform; and an H-bridge including a first leg and a second leg, each leg including a pulse-width modulation control device operative to receive the pulse-width modulation control signal, and alternately couple and decouple the first capacitor across the second capacitor and the output in accordance with the control signal to provide a stimulation output having the desired waveform.

Brink discloses defibrillation circuitry including a battery 23, switches 24, an energy storage device 22, an H-bride including switches S1-S4, and a modulator for controlling the H-bridge switches. See figure 4. Brink does not disclose the combination of elements and features recited in independent claims 1 and 20. For example:

Brink does not disclose a charging circuit; a voltage storage device (or capacitor per claim 20) coupled between a charging circuit and an output; and a capacitor switchably coupled across the voltage storage device and the output, as recited in claims 1 and 20. Brink discloses only a battery 23 and capacitor 22.

Brink also does not disclose H-bridge switches that are operative to receive a pulse waveform, and alternately couple and decouple a voltage storage device across a capacitor and an output in accordance with the pulse waveform to provide a stimulation output having a pulse-width modulated waveform. Brink only discloses H-bridge switches S1-S4 which couple and decouple capacitor 22 from an output 29 in accordance with the output from the modulator 72. These switches S1-S4 do not couple and decouple capacitor 22 from anything else, and in particular another capacitor, as recited in claims 1 and 20.

Brink also does not disclose a capacitor operative to receive current from a voltage storage device when the voltage storage device is coupled across an output and to supply current to the output when the voltage storage device is decoupled across the output. Brink discloses a capacitor 22 that is charged by a battery 23 when switches 24 are closed. It is well known in the art of defibrillation that upon completion

of capacitor charging, switches 24 are open before any of switches S1-S4 are closed to isolate the high voltage supply, which is typically a DC battery, from the output. Thus the battery 23 in Brink is not coupled across the output. Accordingly, the Brink's capacitor 22 is not operative to receive current from a voltage storage device (e.g., battery) when the voltage storage device is coupled across the output, as recited in claim 1.

For all of the above reasons, Applicants submits that Brink fails to disclose the combinations of elements and features recited in independent claims 1 and 20. Accordingly, Applicants request reconsideration of the §102 rejections of claims 1 and 20. Applicants further submit that, in view of their incorporation of subject matter recited in their respective independent base claim, each of dependent claims 4-6, 9, 11, 21-23 and 25 is also novel over Brink.

Aside from the foregoing basis of novelty, Applicants believe that additional novel subject matter is recited in dependent claims. For example, regarding claim 25, Brink does not disclose a second capacitor operative to receive current from a first capacitor when the first capacitor is coupled across an output and to supply current to the output when the first capacitor is decoupled across the output.

Claim Rejections Under 35 U.S.C. §103

Claims 8 and 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Brink. Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Brink or Mulhauser. Claims 12 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Brink. Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Brink or Mulhauser.

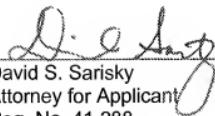
Claims 18 and 19 have been canceled. Regarding claims 8, 12, 24 and 26, in view of the foregoing analysis of independent claims 1 and 20 with respect to Brink, Applicants believe the rejections under §103 are moot as each of dependent claims 8, 12, 24 and 26 depends from an allowable independent base claim.

CONCLUSION

Applicants have made an earnest and bona fide effort to clarify the issues before the Examiner and to place this case in condition for allowance. Therefore, allowance of Applicants' claims 1 and 4-6, 8, 9, 11, 12 and 20-26 is believed to be in order.

Respectfully submitted,

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Date



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